

(vi) means for providing for a uniform forging pressure for any diameter of workpiece during forging.

29. Apparatus as defined in Claim 28, wherein said means for providing for a uniform working pressure includes a sensor adjacent a face of the dies from which the workpiece projects.

30. Apparatus as defined in Claim 29, wherein said opposed dies define a face and wherein said means for providing for a uniform working pressure is adjacent said face.

31. Apparatus as defined in Claim 29, further comprising pressing means for pressing the die plates together in a pressing direction, and pressure applying means for applying pressure in a direction substantially at 90° to said press direction.

32. Apparatus as defined in Claim 31, wherein the pressing means comprise an hydraulic press acting substantially vertically.

33. Apparatus as defined in Claim 31, wherein the pressure applying means comprise an hydraulic press acting substantially horizontally.

34. Apparatus as defined in Claim 33, wherein at least the distance between the dies and the substantiallyhorizontally acting hydraulic press is directly adjustable.

35. Apparatus as defined in Claim 33, wherein at least the distance (v) between the dies and the substantiallyhorizontally acting hydraulic press is indirectly adjustable.

36. Apparatus as defined in Claim 33, *wherein the* distance (v) between the dies and the substantiallyhorizontally acting hydraulic press is adjustable by adjusting a forging piston for effecting forging.

37. Apparatus as defined in Claim 33, wherein the distance between the dies and the substantiallyhorizontally acting hydraulic press is adjustable by adjustment of a forging pad on which a forging piston can act.

38. Apparatus as defined in Claims 32, wherein the pressure of the substantially vertically acting hydraulic press is adjustable.

39. Apparatus as defined in Claim 28, wherein the enlarged die part comprises a substantially U-shaped groove therein.

40. Apparatus as defined in Claim 28, wherein the first die part has an internal die configuration substantially complementary to the external configuration of a major part of a workpiece which is to be forged.

41. A method of cold forging elongate metal workpieces of varying diameter, the method comprising the steps of:

(i) providing two opposed dies;

(ii) providing each die with a first die part and with a second die part which is enlarged with respect to the first die part to form stress alleviating means for alleviating stress to the workpiece during cold forging.

(iii) inserting an elongate workpiece between the dies so that the first die part receives a main part of the workpiece and part of the workpiece projects through and beyond the second die part;

(iv) upsetting the projecting part, with a uniform forging pressure regardless of the diameter of the workpiece, so that the projecting part flows into the enlarged second die part.

42. A method as defined in Claim 41, further comprising the step of providing in each die a relief channel for receiving a rib of the workpiece.

43. A method as defined in Claim 41, further comprising the step of forming a thread on the enlarged part of the workpiece.

44. A method as defined in Claim 41, further comprising the step of adjusting the distance of the projecting part of the workpiece beyond the second die part.